

Potential inaccuracy of finger prick blood samples <i>David A Cooke</i>	42	Assessment at last <i>Maggie Challis; Paul Sackin</i>	43	Research in diabetes mellitus <i>P M Greenhalgh, et al</i>	45
Research, audit and postgraduate education <i>Ronald G Neville, et al</i>	42	Videotaping consultations for assessment <i>Neil S D Mackay</i>	44	Gilles de la Tourette syndrome <i>P G Weaving</i>	45
Estimating date of delivery <i>Jon Dowell and Ruth Astbury</i>	42	Voluntary Service Overseas <i>Damian Kenny</i>	45	Note to authors of letters: Please note that all letters submitted for publication should be typed with <i>double spacing</i> . Failure to comply with this may lead to delay in publication.	
Minor surgery <i>Kieran Sweeney</i>	43	Aid for Bosnia-Herzegovina and Croatia <i>Diana Kinnear</i>	45		

Potential inaccuracy of finger prick blood samples

Sir,

I was recently involved in a case which illustrates that blood glucose results from a finger prick test can be misleading.

A four and a half year old insulin dependent diabetic girl was given a bolus of glucose gel and some milk to treat what was thought by her mother to be a hypoglycaemic episode. One hour later a finger prick test showed the capillary blood glucose level to be in excess of 22 mmol l⁻¹ but there had been no improvement in the child's condition. The children's ward at the hospital was telephoned for advice regarding the need for insulin. There was concern that the glucose bolus, which had been administered without first confirming hypoglycaemia, had aggravated pre-existing ketoacidosis. Immediate admission for assessment was advised.

On admission the child was apyrexial, drowsy and irritable. She was hyperventilating but there was no ketotic fetor. The capillary blood glucose level was again found to be in excess of 22 mmol l⁻¹. A blood sample was sent for urgent laboratory testing.

In anticipation, a fluid regimen was calculated and an insulin infusion was prepared to treat the presumed hyperglycaemia. However, laboratory results revealed normal blood gases and serum electrolytes, and a blood glucose of only 2.1 mmol l⁻¹. Because of this, the capillary blood glucose measurement was repeated on the ward, but blood was taken from the child's foot rather than the finger, after thorough skin cleansing. The reading correlated well with the laboratory result.

Detailed enquiry to establish a reason for discordance between capillary and laboratory results revealed that the child had vomited after being given the glucose bolus, leading to contamination of both hands. Failure to clean the skin prior to performing the finger prick test for capillary glucose level yielded falsely elevated readings both at home, and on admission to hospital. Anyone involved in the care of diabetic patients should be aware that the

accuracy of results is dependent on many factors¹ including skin cleanliness.

Isolated carers managing diabetic patients in the community rarely have access to laboratory facilities on which to base their clinical management in an emergency. They should be especially careful to question the accuracy of capillary glucose results before deciding on treatment.² Inaccurate results can lead to inappropriate and potentially damaging treatment being started.¹

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References

- Colaguiri R, Colaguiri S, Jones S, Moses RG. The quality of self-monitoring of blood glucose. *Diabetic Med* 1990; 7: 800-804.
- Gonder-Frederick L, Snyder A, Clarke W. Accuracy of blood glucose estimation by children with IDDM and their parents. *Diabetes Care* 1991; 14: 565-570.

Research, audit and postgraduate education

Sir,

The recently completed first United Kingdom national asthma attack audit project has implications for attempts to link audit, research and postgraduate study. General practitioners were asked to record details of all asthma attacks which occurred in their patients over a predetermined three month period. The major objective of the project was to research the frequency and management of asthma attacks in the community.

To assist with the recruitment of general practitioners the project was linked to a distance learning programme accredited for the postgraduate education allowance. The experience of linking research and audit to postgraduate study proved valuable and may serve as a model for other projects.

All of the 218 general practitioners who returned research data on their patients who had asthma attacks were sent materials for a distance learning programme.

The programme was free, was in two parts and gave general practitioners individual comments and a critique on how each asthma attack had been managed. General practitioners were asked to formulate an action plan based on how they had managed asthma attacks compared with British Thoracic Society guidelines and the critique. The distance learning package was highly rated by participants who emphasized they felt the programme was highly relevant to their work. A surprising finding was that only 102 of the 218 eligible participants (47%) completed the distance learning package and claimed postgraduate education allowance accreditation (half a day in disease management). The paradox of a highly rated programme with a modest uptake may suggest participants had already accrued sufficient days for the postgraduate education allowance.

There may be lessons for future studies of this type. It is feasible to link a postgraduate educational package to research projects. This can aid recruitment and thus offer participants an incentive, albeit modest, to take part. Linking an educational activity to research and audit based on actual clinical cases may have a beneficial effect on patient care.

We should be interested to hear from others who have experiences or comments on trying to link research, audit and postgraduate education in this way.

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Estimating date of delivery

Sir,

We were interested to read the paper by Rowlands and Royston determining whether the last menstrual period or the ultrasound scan was the more accurate

predictor of date of delivery (August *Journal*, p.322). As the authors suggest, accurate prediction of estimated date of delivery has profound implications for a pregnant woman. However, so does the increasing medicalization of pregnancy. We do not believe that this paper's conclusion, to ignore dates derived from last menstrual period once a scan date is available, is adequately supported by the study or wise in an era of increasing maternal empowerment, as recommended by the Winterton report.¹

Two flaws in the method are apparent: first, no correction for cycle length was made; and secondly, the performance of the scans is likely to have been enhanced by the use of unblinded scanners and a protocol of repeating all scans with a discrepancy of over one week. The combined effect of these biases is likely to far outweigh the brief period (during an error of five to seven days) when the scan dating was found to be significantly more accurate.

The study makes firm recommendations based on an analysis of only 116 pregnancies, suggests that litigation could be appropriate for those who choose not to follow them and has ignored any costs to the women involved. We agree that an accurate estimated date of delivery is important in many cases, but with no clear benefit from a debatable improvement in estimating the due date and no measure of the impact or loss of trust that may result should the date not be accurate these recommendations should not be accepted. Obstetrics is a subject where many modern techniques have become routine before their adequate assessment, and this trend should be reversed not encouraged.²⁻⁴

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References

1. Winterton N. *The health committee report on maternity services*. London: HMSO, 1992.
2. Cardozo L. Is routine induction of labour at term ever justified? *BMJ* 1993; **306**: 840-841.
3. Neilson J. Cardiotocography in labour [editorial]. *BMJ* 1993; **306**: 347-348.
4. Bucher H, Schmidt J. Does routine ultrasound scanning improve outcomes in pregnancy? Meta-analysis of various outcome measures. *BMJ* 1993; **307**: 13-17.

Minor surgery

Sir,
The editorial on the potential pitfalls of minor surgery in general practice

(September *Journal*, p.358) raises many important issues, principally about training. It paints an unnecessarily bleak picture of minor surgery in general practice, and ends with a threat about the imposition of guidelines.

Almost any review on minor surgery in general practice raises the issue of inaccuracy in pre-operative diagnosis. McWilliam and colleagues' study is most frequently cited but the findings require careful interpretation. Only 5% of general practice specimens submitted for examination were malignant compared with nearly a fifth of hospital based cases. McWilliam makes the presumption from this data that most malignant lesions are correctly identified by general practitioners and appropriately referred to specialists. What the authors of the editorial fail to mention is the additional fact that 16% of lesions in this study were incompletely excised by specialists, who carry out these procedures daily as one of their core tasks.

The authors of the editorial correctly make the point about the lack of confidence of vocational trainees in carrying out minor surgery: this could probably be said about their confidence in any aspect of primary care. In quoting Chew, who identified the subtle difference between confidence about performing an operation, and competence to do so, the authors failed to quote Dowling, who summarized the inappropriate self confidence in skills in house officers with regard to resuscitation, urethral catheterization and cardiotocography.^{2,3} Thus, the issue of competence is not one that is exclusive to training in minor surgery, but extends across professional attitudes to training in many activities at this level of junior doctor.

Minor surgery has been carried out in general practice since before the start of the National Health Service and is likely to continue to do so. The authors of the editorial correctly point out the need for formalization in training, but these issues are well addressed in the guidelines for minor surgery in general practice drawn up jointly by the General Medical Surgeons Committee, the Royal College of General Practitioners, the Royal College of Surgeons of England and Edinburgh, and the Joint Committee on Postgraduate Training for General Practice. Far from an outside authority imposing the regulations on general practitioners, the different branches of the profession are collaborating constructively in a process where both general practitioners and their surgical colleagues will draw up guidelines for training, accreditation and review of competence in the future.

Such is the increase in minor surgery activity presently taking place in primary care it would be difficult to envisage a situation in which this was all transferred to the secondary sector. Patients do not want this, the evidence is that it is not cost effective, and appropriate professional action is now being taken to ensure that competence and further education in this activity is assured.⁴

The real issue which may still damage the future of minor surgery in general practice is not addressed in the editorial: it must surely be a matter of time before the first litigation surrounding an inappropriate minor surgical procedure dissuades general practitioners from their current enthusiasm for the activity.

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References

1. McWilliam LG, Knox F, Wilkinson N, Oogarah P. Performance of skin biopsies by general practitioners. *BMJ* 1991; **303**: 1177-1179.
2. Chew C. Training for minor surgery in general practice during pre-registration surgical posts [letter]. *BMJ* 1991; **302**: 1211-1212.
3. Dowling S. Junior doctor's confidence in their skill in minor surgery [letter]. *BMJ* 1991; **302**: 1083.
4. Sweeney KG. Minor surgery in general practice. In: Royal College of General Practitioners. *1993 members' reference book*. London: Sabercrown, 1993.

Assessment at last

Sir,
In his editorial (October *Journal*, p.402) Pereira Gray outlines the welcome move towards 'the principle of individual endpoint assessment of all vocational trainees.' He also points out the differences between formative and summative assessment, and stresses the need to keep these separate. However, I would suggest that the endpoint assessment to which he refers should be both — summative assessment marking the end of of formal training under supervision, and also formative assessment, an opportunity to assess further training and support needs, and areas of strength that may be built on, shared and developed with others.

One of the weaknesses of the British medical education and training system is that it has been based on a time-serving process with summative assessment that, at best, tests a narrow range of skills and knowledge, and at worst allows students to get away with second-guessing the examiner on which aspects to revise out of the huge range of existing knowledge.